

Vegetative Buffer For Construction Sites (1054)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

An area of *dense vegetation*¹ intended to slow runoff and trap sediment. Vegetative Buffers are commonly referred to as filter or buffer strips.

II. Purpose

The purpose of this practice is to remove sediment in *sheet flow* by velocity reduction.

III. Conditions Where Practice Applies

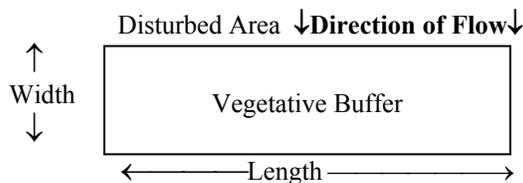
This practice applies to areas where sediment delivery is in the form of *sheet and rill erosion* from disturbed areas.

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of a vegetative buffer. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.



- A. The vegetative buffer shall be located along the entire length of the down slope edge of the entire disturbed area for which the practice is being applied.

- B. The vegetative buffer shall be located on the contour.

- C. The width of the vegetative buffer shall have slopes less than 5 %.

- D. The disturbed area draining to the vegetative buffer shall have slopes of 6 % or less.

- E. The vegetative buffer shall have a minimum *width* of 25 feet. 25 feet is adequate for disturbed areas up to 125 feet upslope from the vegetative buffer. An additional one foot of width shall be added to the buffer for every 5 feet exceeding 125 feet upslope of the disturbed area draining to the vegetative buffer.

- F. To minimize compaction and destruction of the vegetative cover, designate the vegetative buffer as an area of no disturbance. Construction equipment shall be excluded from the designated area. Vegetative buffers shall be clearly shown on plans and marked in the field.

- G. Vegetative buffers shall be densely vegetated prior to upslope soil disturbance.

VI. Considerations

- A. Maintaining sheet flow is critical to the function of a vegetative buffer. In some conditions, a *level spreader* may need to be constructed at the upslope side of the vegetative buffer to minimize concentrated flow.

- B. Vegetative buffers may require large land areas compared to other erosion control practices.

¹ Words in the standard that are shown in italics are described in IX. Definitions. The words are italicized the first time they are used in the text.

- C. Trees should not be cut down to establish a vegetative buffer. Other erosion control measures are preferred.

VII. Plans and Specifications

- A. Plans and specifications for vegetative buffers shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:
 - 1. Location of vegetative buffer.
 - 2. Limits and slopes of disturbed area and any additional contributory drainage area.
 - 3. Dimensions and slope of vegetative buffer.
- B. All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

- A. Vegetative buffers shall be inspected for proper distribution of flows, sediment accumulation and signs of rill formation. Vegetative buffers shall at a minimum be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24-hour period.
- B. If the vegetative buffer becomes silt covered, contains rills, or is otherwise rendered ineffective, other perimeter sediment control measures shall be installed. Eroded areas shall be repaired and stabilized. Repair shall be completed as soon as possible with consideration to site conditions.
- C. A stand of dense vegetation shall be maintained to a height of 3 – 12 inches.
- D. Prior to land disturbance the perimeter of vegetative buffers shall be flagged or fenced to prevent equipment from creating ruts, compacting the soil and to prevent damage to vegetation.

IX. Definitions

Dense vegetation (I): is defined as an existing stand of 3 – 12 inch high grassy vegetation that uniformly covers at least 90 % of a representative 1 square yard plot. Woody vegetation shall not be counted for the 90% coverage. No more than 10% of the overall buffer can be comprised of woody vegetation.

Level Spreader (VI.A): Level spreaders disperse flows over a wide area, dissipating the energy of the runoff and creating sheet flow. Common types of level spreaders are weirs and stone trenches.

Sheetflow (II): Sheet flow is over plane surfaces, where runoff water flows in a thin uniform sheet across the land before it collects in a concentrated flow.

Sheet and Rill Erosion (III): Sheet and rill erosion is the removal of soil by the action of rainfall and shallow overland runoff. It is the first stage in water erosion. As flow becomes more concentrated rills occur. As soil detachment continues or flow increases, rills will become wider and deeper.

Width (V.E): Is measured in the direction of flow.